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(54) Formless forms and paper web

(57) A processor is provided (410-430) with first and second document images. The first image represents an instance of a reference document to which instance a mark has been added. The second image is selected from among a collection of document images and represents the reference document without the mark. The processor automatically extracts (450) from the first document image a set of pixels representing the mark. This is done by performing a reference-based mark extraction technique in which the second document image serves as a reference image and in which substantially the entirety of the first document image is compared with substantially the entirety of the second document image. Also, the processor is provided (440) with information about a set of active elements of the reference document. The reference document has at least one such active element and each active element is associated with at least one action. The processor interprets (460) the extracted set of pixels representing the mark by determining whether the mark indicates any of the active elements of the reference document. If the mark indicates an active element, the processor facilitates (470) the action with which the indicated active element is associated.

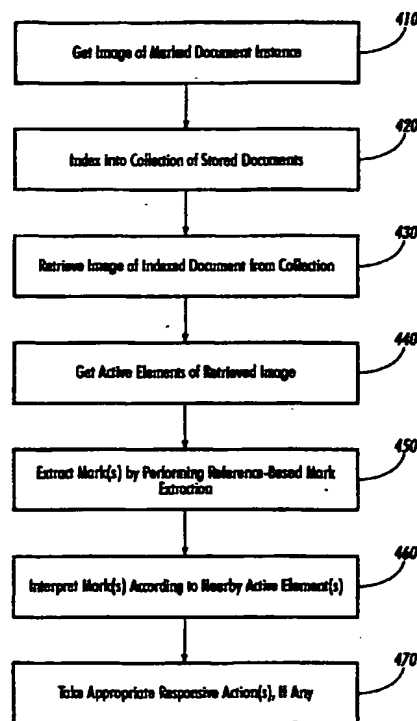


FIG. 4

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## EUROPEAN SEARCH REPORT

Application Number

DOCUMENTS CONSIDERED TO BE RELEVANT			EP 97302982.0
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 6)
A	US 5495581 A (TSAI) 27 February 1996 (27.02.96), claims 1,2,11,19, fig.. --	1,6-9	G 06 K 9/20 G 06 F 17/00 H 04 N 1/00
A	US 5428694 A (BETTS et al.) 27 June 1995 (27.06.95), claim 1. --	1,6-9	
A	US 5418865 A (BLOOMBERG, D.S.) 23 May 1995 (23.05.95), abstract, fig. 1-7. --	1,6-9	
A	US 5455898 A (MAHONEY et al.) 03 October 1995 (03.10.95), abstract, fig. 1-5. --	1,6-9	
A	US 5465167 A (COOPER et al.) 07 November 1995 (07.11.95), abstract, fig. 1-6. -----	1,6-9	<b>TECHNICAL FIELDS SEARCHED (Int. Cl. 6)</b>  G 06 K G 06 F H 04 N
The present search report has been drawn up for all claims			
Place of search <b>VIENNA</b>		Date of completion of the search <b>11-12-1998</b>	Examiner <b>MIHATSEK</b>
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO. EP 97302982.0**

This annex lists the patent family members relating to the patent documents cited in the above-mentioned search report.  
The members are as contained in the EPIDOS INPADOC file on 15.12.1998.  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US A 5495581	27-02-96	WO A1 9317379	02-09-93
		US A 5434066	26-09-93
		US A 5434067	26-09-93
		US A 5638458	17-11-93
		US A 5618203	16-04-94
		US A 5618203	07-10-94
		US A 5638458	31-07-96
		US A 5638458	06-11-96
		US A 5618203	20-04-96
		US A 5618203	25-02-96
		US A 5618203	17-11-96
		US A 5255054	19-10-96
US A 5428694	27-06-95	JP A2 8030722	02-02-96
US A 5418865	23-05-95	JP A2 6124358	06-05-94
		US A 5572601	05-11-96
US A 5435898	03-10-95	CA AA 2133501	25-05-95
		EP A2 654754	24-05-95
		EP A3 654754	22-11-95
		JP A2 7200822	04-08-95
US A 5465167	07-11-95	JP A2 6046244	18-02-94

For more details about this annex see Official Journal of the European Patent Office, No. 12/82.

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